

### III. Remarks

Reconsideration of this application in light of the above amendments and the following remarks is requested.

Claims 1-20 were originally filed in the present application. No claims are currently added or canceled. Thus, claims 1-20 remain pending in the present application.

#### Claim Rejections Under 35 U.S.C. §102: Knollenberg

The Examiner has rejected claims 1-5 under 35 U.S.C. §102(e) as being anticipated by U.S. Pat. Pub. 2004/0160118 by Knollenberg, et al. (“Knollenberg”). Claim 1 recites:

1. A MEMS device, comprising:  
a plurality of actuator layers formed over a substrate, including a first layer and a second layer;  
a bimorph actuator having a substantially serpentine pattern, wherein the serpentine pattern is a staggered pattern having a plurality of static segments interlaced with a plurality of deformable segments, each of the plurality of static segments having a static segment length and each of the plurality of deformable segments having a deformable segment length, wherein the deformable segment length is substantially different than the static segment length, wherein at least a portion of each of the plurality of static segments is defined from the first layer, and wherein at least a portion of each of the plurality of deformable segments is defined from both the first and second layers.

The PTO provides in MPEP §2131 that, to anticipate a claim, a reference must teach every element of the claim. Therefore, to sustain a §102(e) rejection of claim 1, Knollenberg must teach every element of claim 1. However, Knollenberg does not disclose that “a portion of each of the plurality of deformable segments is defined from both the first and second layers,” as recited in claim 1, among other elements, as described below.

With reference to Knollenberg’s FIGURE 6 identified by the Examiner, Knollenberg discloses bimorph actuators each extending between anchor point 603 and actuator platform 612. Each actuator includes bimorph flexure 601, attachment portion 607, a portion of intermediate frame 605, attachment portion 610, bimorph flexure 609, and attachment portion 611, collectively connected in series. Each of the bimorph flexure 601, attachment portion 607, attachment portion 610, bimorph flexure 609, and attachment portion 611 are deformable segments. That is, the bimorph flexures 601, 609 are deformable

by their bimorph nature, and the attachment portions 607, 610, 611 are elastically deformable due to their composition and small dimensions, in response to torsion created between the intermediate frame 605 and the bimorph flexures 601, 609 when the bimorph flexures 601, 609 are actuated.

However, the attachment portions 607, 610, 611 are defined from only one layer (in contrast to the bimorph flexures 601, 609 being defined from two layers, as shown in FIGURE 7). Thus, these “deformable segments” of the Knollenberg bimorph actuator are not defined from both “first and second layers,” as required by claim 1 of the present application. Consequently, Knollenberg fails to disclose that a portion of each of the deformable segments of its bimorph actuator is defined from both first and second layers.

Therefore, the §102(e) rejection of claim 1 is not supported by Knollenberg, and should be withdrawn. Moreover, because claims 2-5 depend from and further limit claim 1, the §102(e) rejection of any of claims 2-5 is also not supported by Knollenberg, and should also be withdrawn.

#### Claim Rejections Under 35 U.S.C. §102: Sarkar

The Examiner has rejected claims 13-17 under 35 U.S.C. §102(e) as being anticipated by U.S. Pat. No. 6,718,764 to Sarkar, et al. (“Sarkar”). However, as provided in the 37 CFR §1.132 Declaration by Inventor Geisberger submitted herewith, the invention disclosed in Sarkar is not an invention “by another.” Consequently, Sarkar is disqualified as a §102(e) reference, and the §102(e) rejection of claims 13-17 based thereon should be withdrawn.

#### Claim Rejections Under 35 U.S.C. §103: Knollenberg and Chen

The Examiner has rejected claim 6 under 35 U.S.C. §103(a) as being unpatentable over Knollenberg in view of U.S. Pat. Pub. 2004/0126254 of Chen, et al. (“Chen”). Applicants traverse this rejection on the grounds that these references are defective in establishing a *prima facie* case of obviousness with respect to claim 1, upon which claim 6 depends.

As the PTO recognizes in MPEP §2142: “... The Examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. If the Examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of nonobviousness....” It is submitted that, in the present case, the Examiner has not factually supported a *prima facie* case of obviousness for the following, mutually exclusive, reasons.

**1. Even When Combined, the References Do Not Teach the Claimed Subject Matter**

Knollenberg and Chen cannot be applied to reject claim 1 under 35 U.S.C. §103 which provides that:

*A patent may not be obtained ... if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains ... (Emphasis added)*

Thus, when evaluating a claim for determining obviousness, all limitations of the claim must be evaluated. However, Knollenberg fails to disclose that “a portion of each of the plurality of deformable segments is defined from both the first and second layers,” as described above and recited in claim 1. Moreover, Chen fails to disclose any deformable segments defined from both first and second layers. In fact, Chen fails to disclose any actuator whatsoever that comprises portions of first and second ones of a plurality of layers formed over a substrate. Consequently, it is impossible to render the subject matter of claim 1 as a whole obvious in view of the combination of Knollenberg and Chen, and the explicit terms of the statute cannot be met.

Thus, for this mutually exclusive reason, the Examiner’s burden of factually supporting a *prima facie* case of obviousness has clearly not been met with respect to claim 1 and its dependent claims, such that the rejection of claim 6 under 35 U.S.C. §103 should be withdrawn.

**2. The Combination of References is Improper**

Another mutually exclusive and compelling reason why Knollenberg and Chen cannot be applied to reject claim 1 or its dependent claims under 35 U.S.C. §103 regards §2142 of the MPEP, which provides:

*...the Examiner must step backward in time and into the shoes worn by the hypothetical ‘person of ordinary skill in the art’ when the invention was unknown and just before it was made.... The Examiner must put aside knowledge of the applicant’s disclosure, refrain from using hindsight, and consider the subject matter claimed ‘as a whole’.*

Here, neither Knollenberg nor Chen teaches, or even suggests, the desirability of the combination since neither teaches that “a portion of each of the plurality of deformable segments is defined from both the first and second layers,” as described above and recited in claim 1.

Thus, it is clear that neither reference provides any incentive or motivation supporting the desirability of the combination. Therefore, there is simply no basis in the art for combining the references to support a 35 U.S.C. §103 rejection.

In this context, the MPEP further provides at §2143.01: “The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination.” Moreover, the courts have repeatedly held that obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the combination.

In the present case it is clear that the Examiner’s combination can arise solely from hindsight based on the invention, in view of the lack of any showing, suggestion, incentive or motivation in either reference for the combination as applied to claim 1. Therefore, for this mutually exclusive reason, the Examiner’s burden of factually supporting a *prima facie* case of obviousness has clearly not been met with respect to claim 1 and its dependent claims, and the rejection of claim 6 under 35 U.S.C. §103 should be withdrawn.

#### **Claim Rejections Under 35 U.S.C. §103: Sarkar and Chen**

The Examiner has rejected claims 7-12 and 18-20 under 35 U.S.C. §103(a) as being unpatentable over Sarkar in view of Chen. However, as provided in the 37 CFR §1.132 Declaration by Inventor Geisberger submitted herewith, the invention disclosed in Sarkar is not an invention “by another.” Consequently, Sarkar is disqualified as a §102(e) reference, such that the §103(a) rejection of claims 7-12 and 18-20 based on Sarkar and Chen should be withdrawn.

#### IV. Conclusion

It is believed that all matters set forth in the Office Action have been addressed. Consequently, favorable consideration and an early indication of the allowability of the claims are respectfully requested. Should the Examiner deem that an interview with Applicants' undersigned attorney would expedite consideration, the Examiner is invited to call the undersigned attorney at the telephone number indicated below.

Respectfully submitted,



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Dated: 9/16/05

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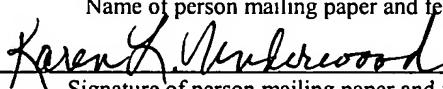
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DATE OF DEPOSIT: September 16, 2005

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